

South Carolina Department of Natural Resources

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Alvin A. Taylor
Director
Robert D. Perry
Director, Office of
Environmental Programs

August 11, 2014

Mr. Stephen A. Brumagin
U.S. Army Corps of Engineers
Columbia Regulatory Office
Strom Thurmond Federal Bldg
1835 Assembly Street, Rm. 865 B-1
Columbia, SC 29201

REFERENCE: P/N # SAC-2008-1333-DIS, SC Department of Transportation, Interstate 73
Final Permittee-Responsible Mitigation Plans for the proposed Long Branch
Stream Mitigation Site and the Joiner Bay Wetland Mitigation Site

Dear Mr. Brumagin,

The South Carolina Department of Natural Resources (DNR) has received two proposed Permittee-Responsible Mitigation (PRM) plans from the South Carolina Department of Transportation (DOT). The proposed mitigation sites and conceptual plans have been developed by DOT in order to provide compensatory mitigation for the unavoidable impacts to streams, wetlands and other jurisdictional waters associated with the construction of Interstate 73 (I-73). These PRM plans include the proposed Long Branch Stream Mitigation Site in Dillon County (dated June 30, 2014) and the proposed Joiner Bay Wetland Mitigation Site in Horry County (dated June 2014). DNR staff have reviewed the documents and submit the following comments pursuant to your July 10, 2014 letter requesting evaluation by the agencies. It is acknowledged by DOT in the submittal that the PRM plans are incomplete relative to meeting the overall I-73 mitigation need.

DNR previously commented, by letter dated September 13, 2013, on the PRM plan for the proposed Long Branch Stream Mitigation Site. DNR expressed concerns that the proposed site is located upstream of an existing impoundment, does not have adequate buffers, is segmented by road crossings, impacted by agricultural ditches and is not in the same eco-region as more than half the proposed project impacts. The PRM Plan to address stream impacts would result in the limited restoration of highly impacted stream segment running through farmland that can only be characterized as ordinary in the natural resources context. Please consult our previously submitted letter (attached) which outlines these concerns in more detail.

DNR also has commented on the PRM plan for the proposed Joiner Bay Wetland Mitigation site in letters dated March 28, 2011 and November 20, 2012. DNR expressed concerns that the proposed site is out of kind with the most significant impacts associated with I-73, has incompatible adjacent land uses and questionable hydrology. The current submittal also indicates that the proposed PRM plan would not provide adequate wetland mitigation credits to compensate for the proposed impacts. Please consult our previously submitted letters (attached) which outline these concerns in more detail.

In addition, DNR has submitted that the previously proposed PRM plans do not meet the stated goals recommended by the I-73 Agency Coordination Team (ACT) including the use of a landscape scale mitigation approach and the provision of direct public benefits through public ownership and public use

Mr. Stephen A. Brumagin

P/N # AC-2008-1333-DIS, I-73, Long Branch Stream and Joiner Bay Wetland Mitigation Sites

August 11, 2014

of the mitigation property. Neither of the currently proposed PRM plans adequately address these or any of the concerns stated herein or previously, and DNR continues to urge the consideration of a comprehensive, landscape scale mitigation plan that will result in the restoration, enhancement and protection of resources that are deemed to be outstanding and worthy based on rigorous scientific and technical merit.

Finally, we believe that the proposed and conceptual PRM plans fall so far short of adequately mitigating for I-73 unavoidable impacts to waters of the United States that if permits and certifications were to be issued for the project using the mitigation strategies presently under review, that other interested parties will be compelled to appeal and litigate thus dooming the I-73 Project to lengthy delay. This scenario will cause significant costs to the applicant and the federal sponsor as well as the regulatory and resource agencies.

DNR staff remain available for additional consultation, and wish to partner with DOT in working toward the completion of the above stated objectives. Please do not hesitate to contact me if I can assist with the development of the ACT recommended goals. If you have any technical questions please contact Greg Mixon at mixon@dnr.sc.gov or 803.734.3282.

Sincerely,



Bob Perry
Director, Office of Environmental Programs

ec: Kelly Laycock - EPA
Pace Wilber - NMFS
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September 13, 2013

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REFERENCE: P/N #SAC-2008-1333-DIS, SC Department of Transportation
Proposed Long Branch Stream Mitigation Site

Dear Mr. Brumagin,

The South Carolina Department of Natural Resources (DNR) has received a proposed Permittee-Responsible Wetland Mitigation (PRM) Plan, dated July 25, 2013 from the South Carolina Department of Transportation (DOT or Applicant) for the proposed Long Branch Stream Mitigation Site. The proposed mitigation site and conceptual plan has been developed and submitted to the U.S. Army Corps of Engineers (USACE) by DOT for consideration of the need to mitigate for unavoidable impacts to streams associated with the construction of the proposed Interstate 73 (I-73). DNR was an active participant in the lengthy Agency Coordination Team (ACT) process that facilitated the National Environmental Policy Act requirements in the planning of I-73. DNR personnel participated more recently in an interagency meeting and field reconnaissance of the proposed PRM site on August 28, 2013. The following comments are submitted pursuant to your July 29, 2013 request that the PRM Plan be reviewed by the agencies.

The proposed stream mitigation site is located northeast of the community of Floydale in Dillon County, approximately 5 miles southeast of the City of Dillon. The site is located in the Little Pee Dee River Watershed, USGS 8-digit Hydrologic Unit Code (HUC) 03040204, and is approximately 7 miles from the proposed I-73 corridor. The site would consist of approximately 94 acres of riparian upland and wetland areas that include approximately 14,607 linear feet of streams.

The PRM plan indicates that the site encompasses most of Long Branch, a perennial tributary to Indian Pot Branch which discharges to the Little Pee Dee River southwest of the site. The site also includes approximately half of the run of Indian Pot Branch. The upper portion of Long Branch has been extensively channelized, is no longer connected to its floodplain, and is surrounded by agricultural fields. The lower portions of Long Branch as well as Indian Pot Branch are much less impacted with relatively intact adjacent wetlands although these areas have been impacted somewhat by ongoing beaver activity and logging. The proposed work would

Mr. Stephen A. Brumagin
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involve stream restoration of the upper portions of Long Branch and stream enhancement and buffer preservation of the remainder of Long Branch and Indian Pot Branch.

Indian Pot Branch flows into Lake Norton, a 54-acre impoundment, at Little Pee Dee State Park immediately below the proposed mitigation site. The stream enters the floodplain of the Little Pee Dee River below the Lake Norton dam prior to its confluence with the river. The PRM plan indicates that the proposed project will improve water quality and downstream habitat as well as provide a corridor for terrestrial wildlife movement. DNR submits that the presence of the existing impoundment severely limits the downstream benefits of the proposed mitigation with regard to aquatic habitat and to a lesser degree water quality although it may provide some benefit to downstream terrestrial wildlife species.

The PRM plan proposes vegetative enhancement and buffer preservation along the lower portions of Long Branch and Indian Pot Branch (Sections D, E, F and I). The proposed vegetative enhancement will consist of the removal of Chinese privet (*Ligustrum sinense*) and other invasive, exotic species along with the supplemental planting of ecologically typical, native understory and canopy species. The proposed buffer widths will vary from approximately 50 feet to 590 feet and will average around 150 feet; however, the buffers currently are limited to only one side of the stream along approximately 3,500 linear feet of Indian Pot Branch (Section F) and along approximately 800 linear feet of Long Branch (Section E). The plan indicates that the two property owners along these reaches are not willing to participate in the project. The riparian areas adjacent to these reaches are described as wetlands that will be difficult to develop or impact; however, much of the credit generated by the proposed mitigation is from restoring areas that are stated to have been historically impacted by silvicultural activities. Recent logging impacts were observed adjacent to several of the reaches proposed to be included in the project during the interagency site visit. In addition, the exclusion of these buffer areas will make it more difficult to maintain the proposed removal of privet as well as the control of beaver activity in the adjacent mitigation areas. For these reasons, DNR has significant concerns regarding the lack of buffers along Sections E and F and submits that proposed restoration and enhancement efforts overall will not be viable if there is inadequate protection afforded these stream reaches.

The portion of Long Branch included in the mitigation site has three existing public road crossings, Hayestown Road, Stubbs Drive and Bermuda Road. These road crossings define the downstream boundaries for Sections A, B and C, respectively as indicated in the maps in the PRM Plan (Figures 6 and 7). In addition, there is one existing private farm access road crossing in Section G and a proposed farm access road crossing in Section A. The PRM Plan indicates that the pipes at Hayestown Road and Stubbs Drive will be replaced; however, the culverts/pipes at all three of the public road crossings appear to be severely impacting the stream. Poorly designed stream crossings can reduce habitat values by segmenting and destabilizing streams and adjacent riparian areas. DNR considers habitat fragmentation and segmentation to be one of the primary impacts associated with the proposed construction of I-73 and we submit that the proposed mitigation should not include these same impacts. Therefore, we recommend that all the public road crossings as well as the farm access road crossings on the PRM site be bridged. Currently, the Hayestown Road crossing and the Stubbs Drive crossing segment a section of stream over 270 linear feet. Since Stubbs Drive is a relatively short, unpaved road that connects two paved roads with no residence or business access points an alternative to bridging could be to close the road at the crossing and remove all fill from the stream and adjacent wetlands. In addition, to removing Stubbs Road we recommend that the

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proposed restoration of Section B be continued downstream to include Section C to create a reach of restored stream of approximately 1,250 linear feet in length.

There are several thousand linear feet of ditches and ditched streams that flow out of agricultural fields into Sections A and G at the upper end of the project site. There also are several lateral ditches that flow from adjacent agricultural fields into these two sections of the project. In addition, there are two ponds that appear to be old animal waste lagoons adjacent to the stream immediate upstream from Hayestown Road. DNR is concerned that nutrients and other pollutants from these ditches and ponds will continue to impact the streams proposed for restoration as well as downstream areas. There was some discussion during the site visit regarding the placement of water quality treatment swales and other measures within the stream buffer areas that would be controlled by the applicant; however, we question whether or not this will be adequate to protect the water quality in the streams. There also is no baseline water quality information provided in the plan nor is water quality addressed in the proposed monitoring plan. Stream Section H currently is a ditch that is proposed for stream restoration, but there is no information provided that supports that this ditch was historically a stream. If this information can be provided for Section H, we recommend that the entire ditched reach be restored and not just the lower half as proposed.

The proposed mitigation site is located in the Southeastern Plains eco-region, however the PRM plan states that 51.63% of the proposed impacts are located in the Mid-Atlantic Coastal Plain eco-region. The 2010 Mitigation Guidelines (SOP) for the Charleston District state that mitigation sites should be located within the same Level III eco-region, the same major drainage basin, and the same 8-digit hydrologic unit (HUC) as the impacts. The SOP allows some latitude for the location factor but it states that projects that are out of eco-region must be considered on a case-by-case basis with no credit for the location factor if they are approved. The applicant has provided a justification in the PRM plan for using the adjacent HUC (0.05) factor for these out of eco-region credits, however DNR submits that these credits should receive the case-by-case location factor of 0.0 if they are approved. The Applicant should submit for approval a detailed justification for providing stream mitigation that is out of eco-region for the impacts that are located in the Mid-Atlantic Coastal Plain.

The proposed PRM plan is part of an overall mitigation package that includes the proposed Long Branch site, the previously proposed Joiner Bay wetland site in Horry County, and the use of one or more mitigation banks expected to be approved in the near future. The use of the mitigation bank is to replace 1,500 credits at Sandy Island that subsequently have been used for the Carolina Bays Parkway and are no longer available for I-73. It has long been acknowledged and should not be in contention that the proposed I-73 is anything but a routine project; it will bisect a significant portion of rural landscape, cross and impact many wetlands and streams creating landscape scale effects to regional aquatic resources. DNR is concerned that the use of a large number of credits from one or more mitigation banks could substantially reduce mitigation credit availability in the Pee Dee or adjacent watersheds. These banks have been or will be approved to ensure that mitigation credits are available for more routine projects not having the large impacts of a project such as the proposed I-73. The I-73 ACT has previously expressed concern about this issue as stated in the PRM plan on page 2:

...the general consensus of the ACT was that if an approved mitigation bank were available, a project the size of I-73 could result in the purchase of all available credits and could close the bank to use by other projects in the area. All agreed

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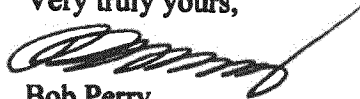
that for a project of this magnitude, permittee-responsible mitigation would be appropriate.

DNR continues to support this ACT statement and recommends that all mitigation required for I-73 be obtained through a PRM plan that addresses the scale and scope of proposed impacts.

In summary, the proposed PRM site is located upstream of an existing impoundment, does not have adequate buffers, is segmented by road crossings, impacted by agricultural ditches and is not in the same eco-region as more than half the proposed I-73 project impacts. As submitted the PRM Plan would result in the limited restoration of highly impacted farmland that can only be characterized as ordinary in the natural resources context. We provide these constructive comments in good faith toward the objective of achieving an acceptable mitigation plan for the proposed roadway project, however we submit that even if all our recommendations are incorporated into the PRM Plan it will not meet the previously stated goals recommended by the ACT including the use of landscape scale mitigation approach and the provision of direct public benefits through public ownership and public use of the mitigation property. DNR continues to urge the consideration of a comprehensive, landscape scale mitigation plan that will result in the restoration, enhancement and protection of resources that are deemed to be outstanding and worthy based on rigorous scientific and technical merit.

DNR staff remain available, and are willing to consult with the Applicant to work toward the completion of the above stated objectives. Please do not hesitate to contact me if I can assist with the development of the ACT recommended goals. If you have any technical questions please contact Greg Mixon at mixon@dnr.sc.gov or 803.734.3282.

Very truly yours,



Bob Perry
Director, Office of Environmental Programs

cc: Kelly Laycock – USEPA
Patrick Tyndall – FHWA
Shane Belcher – FHWA
Jay Herrington – FWS
Pace Wilber – NMFS
Mitchell Metts – DOT
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Alvin A. Taylor
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November 20, 2012

Mr. Stephen A. Brumagin
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Columbia Regulatory Office
Strom Thurmond Federal Building
1835 Assembly Street, Room 865 B-1
Columbia, South Carolina 29201

REFERENCE: P/N #SAC-2008-1333-DIS S.C. Department of Transportation, Proposed Joiner Bay Wetland Mitigation Site

Dear Mr. Brumagin,

The South Carolina Department of Natural Resources (DNR) has received a proposed Permittee-Responsible Wetland Mitigation Plan, dated September 2012 from the South Carolina Department of Transportation (DOT) for the proposed Joiner Bay Wetland Mitigation Site. The proposed mitigation site and conceptual plan has been developed by DOT in order to mitigate for unavoidable impacts to wetlands associated with the construction of the proposed Interstate 73 (I-73). This letter is submitted in response to your letter of October 19, 2012 in which you requested comments from the agencies.

The proposed mitigation site is located northwest of the community of Bayboro in Horry County, approximately 10 miles north of the City of Conway. The site is located in the Little Pee Dee River Watershed, USGS 8-digit Hydrologic Unit Code (HUC) 3040204, and is approximately 2 miles from a portion of the proposed I-73 corridor. The site is comprised of 973 acres and is estimated to provide approximately 597 acres of wetland mitigation.

DNR previously commented by letter dated March 28, 2011 on a conceptual mitigation proposal submitted by DOT that included the Joiner Bay site. At that time, DNR expressed concerns regarding the site's limited upland buffers, complex hydrology and compliance with the previously stated mitigation goals of the I-73 Agency Coordination Team (ACT). The applicant has provided more detail in the current plan that addresses some of these concerns; however, several of these concerns have not been adequately addressed. The lack of upland buffers around much of the site remains a concern relative to contiguous land uses, primarily the adjacent roads and agricultural areas. In addition, the applicant has provided more detailed information regarding local hydrology, but we would like to withhold specific comments until after our hydrologists have had the opportunity to participate in a site visit and review additional baseline and monitoring data. DNR submits that these concerns must be addressed before we offer a further opinion. Lastly, and before rendering a final opinion on the proposed mitigation site and plan, DNR recommends it be determined that the overall proposed mitigation package complies with the I-73 ACT goals, the 2010 Charleston District Mitigation Guidelines and the Federal Mitigation Rule.

The proposed wetland mitigation plan indicates that 3,485.65 wetland credits will be required to provide compensatory mitigation for I-73. Several references are made to mitigation worksheets, and they are

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stated to have been included in the appendices; however, the Required Wetland Mitigation Credit Tables and Worksheets were not included in the document that we received. Therefore, we request that a copy of these worksheets be provided to our agency for review (please submit to Greg Mixon). Our copy of the proposed plan did include a Restoration and Enhancement Worksheet that indicates the site will provide an estimated 172.7 acres of wetland reestablishment (restoration), 424.4 acres of wetland rehabilitation (enhancement) and 375.9 acres of upland buffer enhancement. The proposed wetland restoration is stated to provide 816.9 credits and the proposed wetland enhancement contends to provide 1,583 credits for a total of 2,399.9 wetland credits provided at the site.

The additional required credits needed for I-73, and not provided on the proposed mitigation site, are stated to be provided by closing out the remaining balance of preservation credits from the Sandy Island Mitigation Bank. The document states that the U.S. Army Corps of Engineers (USACE) has determined this balance to be 1,500 credits. For the record, and because credits from the Sandy Island Mitigation Bank have been debited for a number projects over many years, we request that the USACE provide documentation that supports this determination.

DNR staff has reviewed the proposed Restoration and Enhancement Worksheet, and we submit the following specific comments:

1. The proposed Net Improvement (NI) factors are too high and do not reflect the work that is actually being proposed on the site. For hydrologic and vegetative restoration we recommend an NI of 2.5, and for hydrologic and vegetative enhancement we recommend an NI of 2.0. These two areas would correspond, respectively, to the effectively drained and hydrologically impaired wetlands as described in the mitigation plan and shown on Figure 16 of Appendix A. The remaining wetland portions of the mitigation site are vegetative restoration or enhancement without hydrological improvements and should receive less credit. Full vegetative restoration such as the complete removal of pines and replanting with hardwoods should receive an NI of 1.5 and partial vegetative enhancement (selective pine removal and hardwood replanting) should receive an NI of 1.0. These NI factors are consistent with what we have recommended on other similar wetland mitigation sites.
2. The temporal loss factor should be -0.4 (instead of -0.2 as proposed) since it will take 20 years or more to reestablish functioning forested wetland systems after replanting.
3. The proposed mitigation is out-of-kind with significant impacts associated with I-73. DNR considers the most significant impacts associated with the proposed alignment to be the crossings of the Little Pee Dee River, Lake Swamp and their adjacent wetlands. The proposed mitigation site is described as a headwater wetland system on an interstream divide that that will be restored to wetland types that existed under antecedent conditions to include bay forest, stream head pocosin, pine savannah, pond pine woodland and cypress tupelo swamp. The jurisdictional determination drawings dated August 26, 2010 that were included in the permit application package indicate that approximately 50 acres of wooded swamp or bottomland hardwoods will be filled by the proposed crossings of the Little Pee Dee River, Lake Swamp and Black Creek, an adjacent tributary of the Little Pee Dee River. DNR does not consider these types of floodplain wetlands, when they are adjacent to major systems, to be in-kind with the proposed mitigation. These crossings account for approximately 20 % of the total fill impacts associated with I-73, and this should be reflected in the mitigation calculations.
4. As planned, I-73 will cross three USGS 8-digit watersheds: the Middle Pee Dee (HUC 03040201), the Little Pee Dee (HUC 03040204) and the Waccamaw (HUC 03040206). The proposed mitigation site is located in the Little Pee Dee Watershed. The location factor for the impacts located in the Middle Pee Dee and Waccamaw watersheds should be 0.2 (instead of 0.4) to reflect the fact that these impacts are in an adjacent HUC and not in the same 8-digit HUC as the proposed mitigation site.

Mr. Stephen A. Brumagin
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November 20, 2012

In addition, the proposed mitigation plan does not include a stream or linear component. DNR understands that a separate stream mitigation proposal is being developed; we will look forward to submitting comments on proposed stream mitigation when a specific plan has been submitted for review.

For these reasons, DNR submits that the proposed mitigation plan cannot be considered complete, and permits or certificates should not be issued until the concerns and recommendations outlined herein and in our March 28, 2011 letter have been adequately addressed.

In the interim, DNR looks forward to the planned site visit to the proposed site, and we respectfully request the opportunity to submit additional comments as may be necessary after that inspection and interagency discussion. If you have any questions regarding these comments please contact Greg Mixon of our staff at your earliest convenience; Greg may be reached at mixon@dnr.sc.gov or at 803.734.3282.

Sincerely,



Bob Perry
Director, Office of Environmental Programs

cc: Nat Ball – USACE
Kelly Laycock – USEPA
Patrick Tyndall – FHWA
Shane Belcher – FHWA
Mark Caldwell – FWS
Jay Herrington – FWS
Pace Wilbur – NMFS
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John E. Frampton
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March 28, 2011

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Ms. Heather Preston
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Columbia, South Carolina 29201

REFERENCE: P/N # SAC-2008-1333-DIS SC Department of Transportation

Dear Col. Kirk and Ms. Preston,

Personnel with the South Carolina Department of Natural Resources (DNR) have reviewed the above referenced proposed project and offer the following comments:

The proposed Interstate-73 (I-73) project begins at the North Carolina state line near Bennettsville and ends at SC Highway 22 near Conway. The project corridor would be approximately 80 mi long and would cross through Marlboro, Dillon, Marion and Horry counties. I-73 is proposed to be a high-speed, fully controlled-access roadway with interchanges, frontage roads and overpasses to provide access and maintain existing traffic patterns. The roadway would include 4 travel lanes with a grassed median. The right-of-way would be 300 ft wide for most of the project corridor and 400 ft wide where frontage roads are needed. The project would involve 212 separate crossings of streams, wetlands and open water bodies impacting a total of 4,643 linear ft of streams and 342.3 a of wetlands and open waters.

DNR staff served on the Agency Coordination Team (ACT) for I-73 since that process was initiated in June 2004. The ACT determined that I-73 should be evaluated in separate Environmental Impact Statement (EIS) documents covering the southern segment (I-95 to SC Highway 22) and the northern segment (NC state line to I-95). DNR staff provided comments and input throughout the process and consistently stated the primary natural resource concerns associated with the proposed roadway are habitat fragmentation, the crossing of the Little Pee Dee River and adjacent wetlands, and the need for landscape scale mitigation that adequately compensates for all project impacts.

DNR appreciates the efforts of the South Carolina Department of Transportation (DOT) to minimize wildlife habitat fragmentation impacts by shifting the proposed alignment to be adjacent to existing road crossings at the Little Pee Dee River and Lake Swamp. However, there are numerous new alignment crossings of streams, wetlands, adjacent riparian and upland edge habitat areas throughout the project corridor that constitute a major fragmentation of habitat across the entire Pee Dee Region. DOT previously indicated that the use of bridges, over-sized culverts and floodplain culverts may be part of a solution to address habitat fragmentation impacting small to medium-sized species; however, DNR submits that the overall number and dimensions of the bridges and culverts proposed in the public notice will not adequately address this issue. Furthermore, DNR is particularly concerned about the fragmentation of habitat for black bear (*Ursus americanus*) and other large mammals and the potential for increased automobile/wildlife collisions resulting in unnecessary wildlife mortality and human injury or death.

The public notice indicates the Little Pee Dee (LPD) River would be crossed immediately downstream of the existing SC 917 bridge by means of twin 1053 ft bridges consisting of 9 spans with each span extending 117 ft. The LPD River beginning upstream of the project at the confluence with the Lumber River and extending downstream to the confluence with the Great Pee Dee River is classified as Outstanding Resource Waters (ORW) by the South Carolina Department of Health and Environmental Control (DHEC). The proposed bridges will collect vehicular pollutants including hydrocarbons and heavy metals that then will be discharged in stormwater during rain events. The stormwater from overland roadways typically is filtered through grassed swales and other vegetated areas prior to discharge to adjacent waterbodies; however, bridges must be properly designed to collect and filter stormwater prior to discharge to prevent water quality impacts. DNR recommends that there should be no direct discharges of untreated stormwater from the proposed bridges to the waters of the LPD to protect the outstanding water quality, existing uses and habitat values of the river and adjacent wetlands.

The LPD also provides maturation and nursery habitat for the federally endangered shortnose sturgeon (*Acipenser brevirostrum*), and Atlantic sturgeon (*Acipenser oxyrinchus*), a federal candidate species. DOT agreed during the EIS process to implement a seasonal moratorium for all in-water work between February 1 and April 30, and that work would not impede more than 50 % of the river channel during the months of January-April. DNR recommends that a formal consultation should be completed between DOT and the National Marine Fisheries Service prior to permit issuance.

DOT has proposed a conceptual mitigation plan to compensate for the unavoidable wetland and stream impacts associated with this project. This mitigation plan includes the Brittons Neck Stream Mitigation Site in Marion County, the Joiner Bay Wetland Mitigation Site in Horry County and the use of the remaining credits at the Sandy Island Mitigation Bank in Georgetown County. The Brittons Neck site is 32 a in size and would involve restoration of approximately 4,249 linear ft of ditched stream channel flowing through an existing agricultural operation. The Joiner Bay site is 922 a in size and would involve restoration of 777 a of wetlands impacted by historical ditching and conversion to commercial planted pine monoculture.

DNR has numerous concerns with both proposed compensatory mitigation sites. The proposed Brittons Neck Site is composed of a stream segment that in the context of mitigation for I-73 landscape scale impacts, makes little sense from either an ecological or a watershed perspective. The mitigation site boundary appears to have been arbitrarily based on meeting minimum required buffer widths without considering the current or historic ecological conditions of the site. Historic aerial photography and current soils information indicate the stream proposed for restoration was likely part of a coastal plain stream/wetland/sand ridge complex that extended beyond the site boundaries into current agricultural areas. This is supported by information included in the mitigation document stating the majority of the mitigation site and adjacent farmland was classified by the Natural Resources Conservation Service in 1991 as prior converted wetlands. The soils on the site are mapped as Cantey, a hydric soil, with a few small areas of other soil types that have hydric inclusions (Centenary, Persanti and Tawcaw-Chastain). These hydric and hydric-inclusion soils also continue across the mitigation site boundary into areas proposed to remain as agricultural fields and pasture. Therefore, it appears the proposed mitigation site will not include adequate upland buffers as required by the United States Army Corps of Engineers Charleston District Standard Operating Procedure (SOP) for stream restoration credit. The areas adjacent to streams proposed for restoration that are prior converted wetlands should be restored to wetlands and upland buffers then should be established and enhanced as necessary in the uplands adjacent to these wetland areas. The mitigation plan describes the final state of the upper portions of the stream restoration areas (UT 1 North and UT 2) as being braided streams. The SOP requires that braided streams be treated as wetlands and credits generated should be calculated in acres. This will significantly reduce the stream restoration credits generated by this site although with adequate upland buffers these areas could generate additional wetland credits.

DNR has similar concerns with the proposed Joiner Bay Site although this site is difficult to evaluate since a map depicting the relative locations of the proposed restoration, enhancement and upland buffer areas was not included in the mitigation plan. The project description and mitigation worksheet indicate the site will be restored to streamhead pocosins, pine savannas, bay forests and pine flatwoods. A soils map was included in the mitigation package, and all the soils on the site are hydric including Nansemond loamy fine sand, a partially hydric soil. The acreage of the Nansemond soils on the site (185.1 a) also corresponds to the acreage proposed for upland buffers in the worksheet so it is assumed that this soil type corresponds to the areas proposed to be upland buffers (e.g., pine flatwoods). DNR is concerned that without adequate upland buffers, adjacent land uses could have adverse impacts on the proposed restoration and, conversely, that the proposed restoration potentially could impact adjacent landowners. The site is bounded on the south by Joyner Swamp Road for approximately 6,500 linear ft and on the northeast by Watts Road for approximately 4,000 linear ft. Road maintenance, roadside ditches and potential development across the roadways from the site could adversely impact the restoration areas while hydrological restoration of the site could possibly cause flooding of roads and adjacent areas. In addition, the site is bounded on the southeast by what appear to be prior converted agricultural fields that are extensively ditched. This area also includes a large canal/linear pond immediately adjacent to the mitigation site and connecting to the off-site agricultural drainage ditches. Depending on hydrology, this canal/pond and ditch system could

be a significant impact to the mitigation site by draining the adjacent wetlands or by run-off from the off-site agricultural fields to the mitigation site. DNR submits that the upland areas on the site do not appear to be in locations that provide adequate buffer protection for the proposed wetland restoration and enhancement areas with the exception of some portions of the property along Joyner Swamp Road.

On April 10, 2007 the ACT unanimously approved a plan to address the compensatory wetland mitigation needs of the I-73 Project. The approved plan stated that *an adequate mitigation plan for aquatic resource impacts will achieve the following goals:*

- 1. A landscape scale mitigation approach, with a goal of no net loss of habitat and wetlands.*
- 2. Direct public benefits through public ownership and public use of the mitigation property.*
- 3. Generate sufficient mitigation credits to offset the impacts to wetlands and streams as calculated by using the Charleston District SOP as published, and calculating the required credits independently for each 11 digit hydrologic unit in the road corridor. The required credits for all watersheds will be summed to determine the total project required credits.*
- 4. Debit the Sandy Island Mitigation Bank for all remaining credits in an amount determined to be appropriate by the agencies in accordance with the terms of the banking agreement.*

DNR submits that neither the Brittons Neck Site nor the Joiner Bay Site is appropriate or adequate to mitigate for the substantial landscape scale impacts associated with the construction of I-73 and do not meet the stated goals of the ACT. Neither of the sites provides landscape scale mitigation due to the lack of upland buffers, incompatible adjacent land use issues and the segmented, piecemeal configuration of the sites (ACT Goal 1). Neither of the sites has the potential for more than minimal public access and consequently neither is appealing for public ownership (ACT Goal 2). The Brittons Neck Site does not provide adequate stream mitigation credits after subtracting the braided stream credits and the Joiner Bay Site may not provide sufficient wetland credits given the lack of adequate upland buffers and questionable hydrology (ACT Goal 3).

In closing, the proposed roadway will have significant natural resource impacts including the crossing of an ORW river, over 200 stream and wetland crossings, and the fragmentation of habitat across a large portion of the State. Significant impacts likewise will require significant compensatory mitigation in addition to the direct costs of constructing a new roadway. DNR recommends the applicant reconsider the use of existing road corridors to the greatest extent practicable. This could satisfy the stated needs of the project while greatly reducing habitat fragmentation and impacts to wetlands and could reduce the substantial costs associated with compensatory mitigation. In addition, upgrading and improving existing roadways in established transportation corridors that are adjacent to economic centers could enhance local economic development and reduce construction costs thereby saving tax dollars during a time of severe state and federal budget limitations.

LTC Jason A. Kirk and Ms. Heather Preston
P/N # SAC-2008-1333-DIS SC Department of Transportation
March 28, 2011

For these reasons DNR recommends that the proposed permits not be issued until the concerns and recommendations outlined herein have been adequately addressed.

If your office should require any additional information regarding comments on the proposed project, please contact Greg Mixon at mixon@g@dnr.sc.gov or at 803.734.3282.

Sincerely,



Bob Perry
Director, Office of Environmental Programs

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